

REMARKS/ARGUMENTS

Claim 4 has been amended by incorporating subject matter from claim 7 into it.

Claims 6 and 7 have been canceled.

New claims 11 and 12 have been added, support for which exists throughout the present application, including page 4, lines 18-24 and page 5, line 25 through page 8, line 8.

Claims 4 and 8-12 are currently pending.

The Office Action rejected claims 4 and 6-10 under 35 U.S.C. § 102 as anticipated by, or in the alternative, under 35 U.S.C. § 103 as obvious over, U.S. patent 4,978,765 (“Sasaki”). In view of the following comments, Applicants respectfully request reconsideration and withdrawal of these rejections.

The pending rejections are based upon the assumption that the value for B/A required by the pending claims is an inherent feature of Sasaki’s catalysts. However, this assumption is incorrect and improper. Because the rejections are based upon this assumption, it follows that the pending rejections are also incorrect and improper. Accordingly, Applicants respectfully request reconsideration and withdrawal of the pending rejections.

The present invention relates to a novel catalyst which, as demonstrated in the examples of the present application, allows for improved production efficiencies during the synthesis of acrylonitrile.

As more fully explained in Applicants’ previous responses, the manner by which the novel catalyst of the present invention is prepared differs from Sasaki’s preparation process. For example, the processes associated with the present invention include having a small difference between temperatures near the inlet and near the outlet, preferably in the range of 20-60°C. This feature is more prominently featured in claims 11 and 12. Sasaki neither teaches nor suggests such processes. For example, Sasaki discloses that the temperature

differential discussed above is 160°C. Thus, it is clear that Sasaki neither teaches nor suggests the same processes disclosed in the present application.

More specifically, and as shown in examples and comparative examples of the present application, such differences in processes results in differences in products. These examples show that even if the Mo/Si atomic ratio in the bulk composition of the catalyst (expressed as A) were the same value, preparing the catalyst via different methods can affect the Mo/Si atomic ratio in the catalyst surface. That is, when different methods of preparing the catalyst are employed, the Mo/Si atomic ratio in the surface composition of the catalyst particles (expressed as B) can be different.

Set forth below is a table summarizing the data from the examples of the present application.

| | Temperature of the hot air of the drying chamber | | | | | | Yield% |
|-----------------------|--|------|------|-------|--------|----------------|--------|
| | A | B | B/A | inlet | outlet | the difference | |
| Example 1 | 0.19 | 0.08 | 0.42 | 200° | 160° | 40° | 81.1 |
| Comparative Example 1 | 0.19 | 0.13 | 0.68 | 330° | 190° | 140° | 79.8 |
| Example 2 | 0.29 | 0.10 | 0.34 | 220° | 170° | 50° | 82.6 |
| Example 3 | 0.29 | 0.08 | 0.42 | 180° | 145° | 35° | 83.4 |
| Comparative Example 2 | 0.29 | 0.22 | 0.76 | 370° | 190° | 180° | 78.8 |

According to the data in the present application, the bulk composition values (A) are the same, yet the surface composition (B) are different depending on processing methods, leading to different B/A ratios. Thus, the data shows that the processes associated with the present invention having a small difference between temperatures near the inlet and near the

outlet (in the range of 20-60°C) yield different products having different Mo/Si atomic ratios in the surface of the catalyst particles (expressed as B) than processes like those of Sasaki having a large temperature differential (about 160°C).

Stated another way, the present invention relates to the discovery that different catalyst particles having different surface compositions can be prepared by devising a process to dry the aqueous slurry so as to control B/A, in particular by controlling the difference in the temperature of the hot air at an inlet of the drying chamber and the temperature of the hot air at an outlet of the drying chamber to range from 20°C to 60°C. Sasaki neither teaches nor suggests this invention.

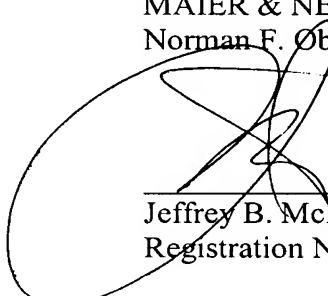
The Office Action asserted that the B/A value is an inherent property to the catalyst, meaning that Sasaki's catalysts and the invention catalysts would have the same B/A values regardless of their methods of preparation. As demonstrated above, this assertion is incorrect. For example, as demonstrated in example 1 and comparative example 1 of the present application, catalysts prepared according to the methods in the present application have a low B/A value satisfying the claim requirements (for example, example 1), whereas catalysts prepared via other methods including an large inlet/outlet temperature differential do not (for example, comparative example 1). Thus, Applicants have demonstrated that B/A value is not an inherent property regardless of preparation method. Accordingly, Sasaki's catalysts which are indisputably prepared by different methods than the claimed invention cannot be said to inherently possess the same B/A values as required by the pending the claims. The evidence of record directly rebuts this assertion.

For all of the above reasons, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. §§ 102 and/or 103.

Applicants believe that the present application is in condition for allowance. Prompt and favorable consideration is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon



Jeffrey B. McIntyre
Registration No. 36,867

Customer Number

22850

Tel #: (703) 413-3000

Fax #: (703) 413-2220